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# CHAPTER 13

## **HEARING PROTECTION PROGRAM**

### **HOW TO PROTECT YOUR HEARING**

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HEARING PROTECTION

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**HEARING PROTECTION PROGRAM**

**THIS SPACE AVAILABLE FOR NOTES:**

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# CHAPTER 13

## **HEARING PROTECTION PROGRAM**

### **HOW TO PROTECT YOUR HEARING**

#### **13.00 INTRODUCTION**

This chapter describes the Department's Hearing Protection Program. The Program is designed to protect employees\* from hearing loss through the introduction of engineering controls, implementation of administrative controls, or through the use of personal protective equipment (PPE).

#### **13.01 PURPOSE**

The purpose of this chapter is to provide details about Cal-OSHA regulations that require employers to institute a Hearing Protection Program for employees\* that meet established criteria.

\*The Headquarters Office of Safety and Health identifies specific classifications for mandatory enrollment in the Department's Hearing Protection Program. The Department's Hearing Protection Program, as described in this chapter, does not include prospective employees who are subject to pre-employment physicals to establish a baseline audiogram test record. See Section 13.05 - Enrollment and Classifications for details.

#### **13.02 POLICY STATEMENT**

Employees who work where there is probable exposure to noise levels that may equal or exceed an 8-hour time-weighted average sound level of 85 decibels (dB) shall be tested and enrolled in the Department's Hearing Protection Program.

#### **13.03 Cal-OSHA REQUIREMENTS**

The General Industry Safety Orders (GISO), Control of Noise Exposure, covered under Sections 5095 through 5100, and Section 1521 of the Construction Safety Orders (CSO) requires the Department to administer a hearing protection program.

GISO Section 5097(a) requires that whenever any employee's exposure may equal or exceed an 8-hour time-weighted average sound level of 85 dB, the supervisor must obtain noise level measurements of the employee's exposure.

The results of these noise level measurements are used to identify work activities and associated civil service classifications for enrollment into the Hearing Protection Program. Once an employee is enrolled in the Program, the employee is required to have an audiogram test and then must be tested annually thereafter.

The regulations further require that engineering controls are the first priority, followed by administrative controls, and personal protective equipment (PPE) which is the last preferred method to be used to control noise level exposure. These are described as follows:

1. **Engineering Controls.** Making changes in the machinery, the way the machine operates, or the design of the structure in which the machinery is housed can control noise. Engineering controls include barriers, damping, isolation, muffing, noise abortion, mechanical isolation, variations in force, pressure or driving speed and combinations of these.
2. **Administrative Controls.** These controls limit the length of time workers are exposed to noise in the work area. They involve assigning work to less noisy areas so that the average of the employee's daily exposure is less than 85 dB. The choice of which kind of controls to be used is governed by the particular noise control problem being encountered.
3. **Personal Protective Equipment (PPE).** When engineering and/or administrative controls either fail to reduce noise to within required limits or are not technologically feasible, ear plugs or ear muffs must be used. The Department provides all hearing protection equipment.

#### 13.04 ROLES AND RESPONSIBILITIES

The Headquarters Office of Safety and Health administers the Caltrans Hearing Protection Program by providing statewide policy and direction. The Office of Safety and Health shall:

- Identify Caltrans work activities which expose employees to noise levels that equal or exceed the Cal-OSHA dB standard set by GISO Section 5097.
- Identify the civil service classifications associated with work activities that expose employees to noise levels that equal or exceed the Cal-OSHA dB standard, and require audiogram testing.
- Provide District Safety and Health Officers, managers, supervisors, and others with information about identified work activities, and classifications requiring enrollment into the Program.

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The Office of Personnel Operations staff (in the North and South Administrative Service Centers) shall:

- Maintain employee medical files, including records of audiometric testing.
- Provide required medical records, upon request, to employees, former employees, and representatives designated by the individual employee, or authorized representative of Cal/OSHA, as required by GISO Section 5100(e).

The District Safety and Health Officers and staff shall:

- Inform managers and supervisors about Program requirements, and ensure that employees in identified work activities and classifications are enrolled in the Program.
- Arrange service contracts with licensed or certified audiologist, physician, or certified audiometric technicians.
- Provide a copy of the AUDIOMETRIC EVALUATION, Form PM-S-0003, to supervisors for their employees who are scheduled to have an audiogram.
- Provide information to managers and supervisors regarding engineering controls, administrative controls, and personal protective equipment (consistent with changes in protective equipment and processes).
- Conduct periodic safety inspections to monitor work operations and new equipment to identify potential exposure to noise levels that may equal or exceed the Cal/OSHA dB standard.
- Ensure that a copy of Article 105, Control of Noise Exposure, from the GISO, is made available, upon request, to affected employees or their representative. A copy shall be posted at each workplace [see Section 5099(b)(1)] where employees in identified classifications are enrolled in the Program.

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Managers and Supervisors shall:

- Ensure that employees in identified work activities or classifications are enrolled in the Program, arrange and schedule audiogram testing upon initial enrollment, and annually thereafter, notify employees of the results of the audiogram.
- Provide a copy of the AUDIOMETRIC EVALUATION, Form PM-S-0003, to employees who are scheduled to have an audiogram.
- Maintain copies of noise exposure measurement records. (Forward all medical records, including audiogram testing, to the Office of Personnel Operations at the North or South Administrative Service Center.)
- Ensure that employees receive training regarding the effects of noise on human hearing when initially enrolled and annually thereafter.
- Provide ear plugs or ear muffs, and make available, as needed, a variety of suitable hearing protection equipment to employees.
- Request periodic safety inspections to monitor work operations and new equipment to identify potential exposure to noise levels that may equal or exceed the Cal/OSHA dB standard.
- Ensure that when an employee, enrolled in the Hearing Protection Program, is transferred, all valid exposure records are sent to the employee's receiving supervisor.

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**13.05 ENROLLMENT AND CLASSIFICATIONS**

The Headquarters Office of Safety and Health has identified the following classifications for mandatory enrollment in the Department's Hearing Protection Program:

<b>Class Code</b>	<b>Class Title</b>
6378	Heavy Truck Driver *
6514	Lead Structural Steel Painter
6517	Structural Steel Painter
6519	Structural Steel Painter - Apprentice
9381	Tree Maintenance Worker
9382	Tree Maintenance Leadworker, Caltrans
1707	Toll Collector

\* This identified class covers only Transport Drivers assigned to the Equipment Service Center who are engaged in equipment loading, unloading and, transport of heavy equipment.

NOTE:

Prospective employees who are required to have a pre-employment physical and an audiogram to establish a baseline hearing record are not included in the Department's Hearing Protection Program. The pre-employment audiogram process is for prospective employees; whereas, the Hearing Protection Program is designed for permanent employees.

The pre-employment audiogram testing process is not based on Cal-OSHA regulations, but is based on Departmental policy. This process is designed to establish a hearing record for prospective employees that can be used in support of, and/or in defense of future workers' compensation claims for alleged hearing loss.

SPECIAL NOTE FOR PERSONNEL OFFICERS and STAFF:

Audiogram testing for pre-employment physicals are to be conducted as described in Section 13.06, MONITORING AND TESTING PROCEDURES.

Contact the Headquarters or District Office of Safety and Health for additional information.

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**13.06 MONITORING AND TESTING PROCEDURES****NOTE:**

The test procedures described below shall be followed for both employees enrolled in the Hearing Protection Program contained in this chapter, and prospective employees who are subject to pre-employment physicals to establish a baseline audiogram test record.

Employees exposed to workplace noise at or above the 85 dB Action Level shall be tested to establish a baseline to which subsequent audiograms can be compared.

Audiometric testing shall be conducted by a licensed or certified audiologist, a physician, or a certified audiometric technician.

The audiometric examination shall be administered in accordance with the American Medical Association Current Procedural Terminology Coding Manual (CPT-4), Number 92552, defined as "pure tone audiometry (threshold) air only."

Audiometric testing shall be conducted in accordance with GISO Section 5097, HEARING CONSERVATION PROGRAM. Specific audiogram tests shall comply with Section 5097(c) Audiometric Testing Program, 5097(d) Evaluation of Audiogram, and 5097(e) Audiometric Test Requirements, and Appendix A - F.

Contact the Headquarters or District Safety and Health Office for interpretation, implementation, or further details regarding the Cal-OSHA monitoring and testing regulations.

A sample of the AUDIOMETRIC EVALUATION, Form PM-S-0003, is shown at the end of this chapter.

**13.07 TRAINING**

Supervisors shall ensure that each employee receives training when initially enrolled and annually thereafter. Training shall include:

1. The effect of harmful exposure to various noise levels on human hearing.
2. The purpose, advantages, and disadvantages of hearing protection devices.
3. The purpose of annual testing and an explanation of the testing procedures.
4. Instructions on selection, fitting, and the use and care of hearing protectors.

It is recommended that the brochure titled, "Hearing Conservation, A Guide to Preventing Hearing Loss," printed by the KRAMES Communication, or equivalent be used. Contact the Headquarters Office of Safety and Health for information.



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**13.08 RECORD KEEPING**

Employee audiogram information shall be retained in the employee's medical file\* and shall include:

1. Name and job classification of the employee,
2. Date of audiogram,
3. Examiner's name,
4. Date of last calibration of the audiometer, and
5. Employee's most recent noise exposure assessment

\* Employee medical files are maintained at the North and South Administrative Service Centers.

NOTE:

Supervisors should retain copies of noise exposure measurement records for their own files, and forward all medical records to the Office of Personnel Operations at the appropriate Administrative Service Center for retention.

GISO Section 5100(d)(1) (2) require that employee audiometric hearing baseline records be retained in the personnel file for the duration of employment. All supplemental noise exposure measurement records shall be retained in the supervisor's file for two (2) years.

Ensure that when an employee, enrolled in the Hearing Protection Program, is transferred, all valid exposure records are sent to the employee's receiving supervisor.

GISO Section 5100(e) requires that hearing records shall be provided, upon request, to employees, former employees, and representatives designated by the individual employee, or authorized representative.

### 13.09 DEFINITIONS AND TERMINOLOGY

**Action Level** - The General Industry Safety Orders has established that an eight hour time weighted average (TWA) of 85 decibels (dB) is the point when the employer must enroll employees in a hearing conservation program.

**Administrative controls** - Management's limiting of workplace noise exposure through the rotation of personnel or reduction in time spent by employees in a noisy environment. Includes mandating the use of personal protective devices.

**Audible Range** - The range in cycles per second (20-20,000 Hz) that the human ear can hear.

**Audiogram** - Recorded results of an audiometric examination.

**Audiometric Examination** - Hearing test conducted by or under the supervision of a licensed physician or audiologist.

**Baseline Audiogram** - The initial audiogram against which all future audiograms are to be compared.

**Engineering Controls** - Management-initiated physical measures or devices installed on equipment or in the work environment that will reduce workplace noise levels to acceptable limits.

**Calibrate** - The procedure used to check an audiometer for uniformity or accuracy.

**Decibel** - A unit for expressing the relative intensity of sound. A decibel is commonly referred to as "dB."

**Exposure Measurement Record** - Required whenever information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 dB.

**Frequency** - The number of sound vibrations per second in units of Hertz (Hz) or cycles per second.

**Hertz** - The unit of measurement of frequency, numerically equal to cycles per second.

**Sound Level Meter** - An instrument for the measuring of sound.

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**Standard Threshold Shift** - A confirmed change in hearing relative to the baseline audiogram of an average of 10 dB or more at 2,000, 3,000, and 4,000 Hz in either ear.

**Speech Frequencies** - The range in cycles per second (500-4,000 Hz) at which normal speech can be heard.

**Sound** - The sensation produced through the organs of hearing by vibrations transmitted in a material medium, usually air.

**Temporary Threshold Shift** - A change in hearing relative to the baseline audiogram of an average of 10 dB or more at 2,000, 3,000, and 4,000 Hz in either ear, caused by exposure to loud noise prior to an audiometric examination. Example: rock concert the night before, cutting wood with a chain saw, etc.

**Threshold** - The point at which a person just begins to notice a tone is becoming audible.

**Time Weighted Average (TWA)** - The average exposure to noise over an eight (8) hour work shift, as determined by actual noise level samples taken during the work shift.

### 13.10 TYPICAL NOISE LEVELS

The following list illustrates various noise levels that individuals may encounter:

140 dB	Jet airplane taking off at 50 feet
130 dB	Approximate threshold of pain in human ear
120 dB	Jet airplane takeoff at 200 feet
115 dB	Brush chipper
110 dB	Chain saw
100 dB	Snow blower
90 dB	Paving machine
85 dB	Freeway noise
80 dB	Riding in vehicle, window down
70 dB	Conversation at 1 foot
60 dB	Conversation at 3 feet
50 dB	Business office, typical home
40 dB	Outside noise, quiet residential area

**AUDIOMETRIC EVALUATION****FORM PM-S-0003**

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**AUDIOMETRIC EVALUATION FORM**  
PM-S-0003 (REV. 5/98)

**PERSONAL INFORMATION NOTICE**

Pursuant to the Federal Privacy Act (P.L. 93-579) and the Information Practices Act of 1977 (Civil Code Sections 1798, et seq.), notice is hereby given for the request of personal information by this form. The requested personal information is voluntary. The principal purpose of the voluntary information is to facilitate the processing of this form. The failure to provide all or any part of the requested information may delay processing of this form. No disclosure of personal information will be made unless permissible under Article 6, Section 1798.24 of the IPA of 1977. Each individual has the right upon request and proper identification to inspect all personal information in any record maintained on the individual by identifying particular. Direct any inquires on information maintenance to your IPA Officer.

This information is required for all State-provided audiograms.  
Shaded area to be filled out by physician/audiologist.  
All other information to be supplied by employee - Please print.

EMPLOYEE LAST NAME	FIRST NAME	M.I.	DISTRICT	UNIT
SOCIAL SECURITY #		CLASSIFICATION	DATE OF BIRTH	SEX

RIGHT EAR							LEFT EAR						
500	1000	2000	3000	4000	5000	6000	500	1000	2000	3000	4000	5000	6000
OTOSCOPY RIGHT							LEFT						

**Please answer the questions below:**

- Have you ever had a head injury with unconsciousness ☐ YES ☐ NO
- Have you ever had severe dizziness? ☐ YES ☐ NO
- Have you ever had ear surgery? ☐ YES ☐ NO
- Have you ever had severe ear infections? ☐ YES ☐ NO
- Have you ever had exposure to noise in previous jobs? ☐ YES ☐ NO
- Have you ever had exposure to noise in military service? ☐ YES ☐ NO
- What Branch: ☐ Army ☐ Navy ☐ Air Force ☐ Marines ☐ Other
- Were you in combat? ☐ YES ☐ NO
- Do you participate in noisy hobbies (motorcycles, firearms)? ☐ YES ☐ NO
- All jobs included, how many years have you worked in noise?
- Do you wear a hearing aid? ☐ LEFT ☐ RIGHT ☐ BOTH ☐ NO
- Do you have a cold? ☐ YES ☐ NO
- Are you taking antibiotic? ☐ YES ☐ NO
- Do you have ear drainage or pain? ☐ LEFT ☐ RIGHT ☐ BOTH ☐ NO
- Do you have a perforated ear drum? ☐ LEFT ☐ RIGHT ☐ BOTH ☐ NO
- Do you have ringing in your ears? ☐ LEFT ☐ RIGHT ☐ BOTH ☐ NO
- Do you have known hearing loss? ☐ LEFT ☐ RIGHT ☐ BOTH ☐ NO
- At the end of your shift do your ears ring? ☐ YES ☐ NO
- Did you work in noise today? ☐ YES ☐ NO
- Did you use hearing protection? ☐ YES ☐ NO

*I certify that the above statements and answers to the above questions are accurate to the best of my knowledge and that the results of my hearing test may be used to carry out a hearing conservation program.*

EMPLOYEE SIGNATURE	DATE
NAME OF AUDIOMETRIC EXAMINER	DATE OF LAST ACOUSTIC OR EXHAUSTIVE CALIBRATION OF AUDIOMETER